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KARNATAKA RADIOLOGY EDUCATION PROGRAM

# CASE PRESENTATION: PRIMARY SYNOVIAL OSTEOCHONDROMATOSIS.

COMPILED BY DR MD IMTIYAAZ ALI (RESIDENT)

CASE GUIDE: DR OM PRAKASH (PROFESSOR)

DEPT OF RADIODIAGNOSIS.

SUBBAIAH MEDICAL COLLEGE, SHIMOGA.

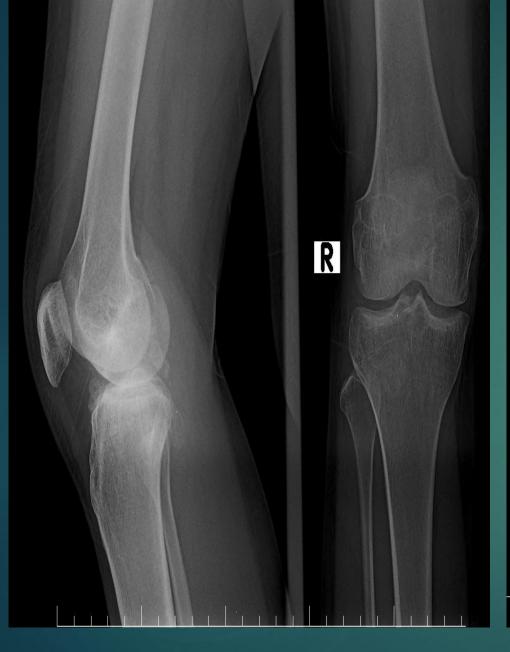
#### INTRODUCTION

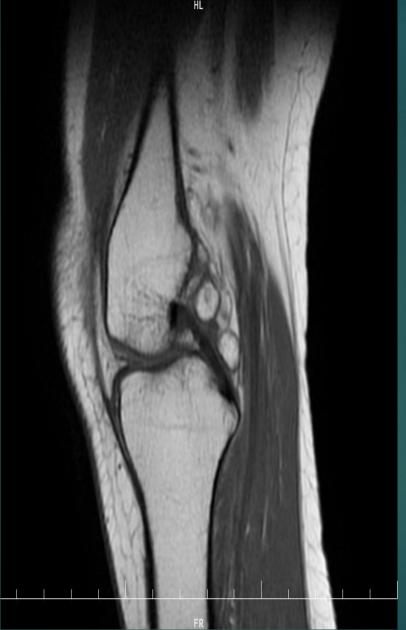
- Synovial chondromatosis (SC) is a benign uncommon condition of the synovial membrane of joints, tendon sheaths, and bursae that can result in severe disability and dysfunction of an involved synovial joint.
- Observation of involved cases indicates that this benign condition rarely undergoes malignant transformation; however, transformation to chondrosarcoma is a possible complication. Ambrose Pare was the first to describe synovial chondromatosis in the knee in 1558. Then, in 1813, Laennec described intraarticular loose bodies originating from subsynovial tissues..
- The initial diagnosis is made through a thorough history, physical examination, and radiological evaluation of an affected joint.
- The range of motion is usually decreased.

## HISTORY

▶ 23 yr old female presents with

C/o knee pain, difficulty in walking and locking of knee joint since 3 years.







AP AND LATERAL RADIOGRAPH

SAG T1 WI







SAG CT

#### FINDINGS

- X-ray evaluation reveals multiple loose radio-opaque bodies of varied sizes in a joint.
- On MRI there are numerous similar-sized well corticated intra-articular loose bodies of variable signal intensity, some of them are showing intermediate to high signal intensity that is of cartilage. Others have low signal intensity at the periphery, which represents ossification.
- ▶ No significant degenerative changes of the joint.
- ▶ CT: Better visualization of the mineralized areas, which are hypointense in all MRI sequences.

### DISCUSSION

- ▶ Primary synovial chondromatosis (also known as Reichel syndrome or Reichel-Jones-Henderson syndrome), is a benign monoarticular disorder of unknown origin that is characterized by synovial metaplasia and proliferation resulting in multiple intra-articular cartilaginous loose bodies of relatively similar size, not all of which are ossified. Hence, the term <a href="synovial chondromatosis">synovial chondromatosis</a> is preferred over primary synovial osteochondromatosis.
- ▶ It is distinct from <u>secondary synovial chondromatosis</u> that is the result of a degenerative change in the joint.
- ▶ The knee is the most common joint affected. Typically affects diarthrodial, weight-bearing joints of individuals 30-60 years of age. The following joints are affected in descending order of frequency: knee (70%), hip (20%), shoulder, elbow, ankle, and wrist

# D/D...

Some pathologies result in the formation of intra-articular loose bodies or synovial proliferationThese include:

- Crystal deposition disease (tendinosis Calcarea)
- Osteocartilaginous loose bodies
- Osteochondritis dissecans
- Neurotrophic arthritis
- Rheumatoid arthritis
- Degenerative arthritis
- Tuberculous arthritis
- Osteochondral fractures
- Soft tissue tumors
- Other benign synovial disorders include synovial hemangioma, lipoma arborescent, and pigmented villonodular synovitis (PVNS).
- Differential diagnosis should also consider the possibility of a malignant lesion. Interosseous low-grade chondrosarcoma that extends into a joint and synovial cell sarcoma can be considered if the lesions involve bone adjacent to a joint.

#### TREATMENT

- Synovial chondromatosis can be a self-limiting disease. So, conservative management can work for some patients. Nonsteroidal anti-inflammatory drugs (NSAIDs), modification of activities, and cryotherapy might be considered.
- However, reduced range of motion and mechanical symptoms of locking and catching from loose bodies can have deleterious consequences with joint destruction. Hence, the definitive management of synovial chondromatosis is the surgical removal of loose bodies with or without synovectomy.
- Secondary synovial chondromatosis is managed by antiinflammatory medication with the additional management of the inflammatory joint symptoms until or unless mechanical symptoms prohibit adequate function.

# THANK YOU